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Ifw

## NOTICE OF ALLOWANCE AND FEE(S) DUE

7590

09/20/2007

GEORGE J. MIAO  
#A27  
20400 VIA PAVISO  
CUPERTINO, CA 95014

EXAMINER

DSOUZA, JOSEPH FRANCIS A

ART UNIT

PAPER NUMBER

2611

DATE MAILED: 09/20/2007

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,366	07/07/2003	George J. Miao		7864

TITLE OF INVENTION: SPREAD SPECTRUM BASED MULTICHANNEL MODULATION FOR ULTRA WIDEBAND COMMUNICATIONS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$700	\$0	\$0	\$700	12/20/2007

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

**II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.**

**III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.**

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**



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10/614,366	07/07/2003	George J. Miao		7864
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GEORGE J. MIAO  
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CUPERTINO, CA 95014

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 654 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 654 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	Application No.	Applicant(s)
	10/614,366	MIAO, GEORGE J.
	Examiner Adolf DSouza	Art Unit 2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 8/15/2007.
2.  The allowed claim(s) is/are 25 - 32, 46 which have been renumbered as set forth in the Office Action.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit of Biological Material
5.  Notice of Informal Patent Application
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other PTO 413B.

  
DAVID C. PAYNE  
SUPERVISORY PATENT EXAMINER

1. Claims have been renumbered as shown below:

- Claims 25 - 32 are renumbered as claims 1 – 8 respectively.
- Claim 46 is renumbered as claim 9

#### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with George Miao (Applicant Pro Se) on 9/6/2007

The application has been amended as follows:

#### **IN THE CLAIMS:**

(a) Replace claim 25 by:

A spread spectrum based multichannel modulation Ultra-Wideband (UWB) communication transceiver for comprising:  
a pseudorandom noise (PN) sequence look-up table coupled to a multichannel PN sequence mapping;

the multichannel PN sequence mapping coupled to a digital lowpass finite impulse response (FIR) shaping filter; and

the digital lowpass FIR shaping filter coupled to a digital-to-analog (D/A) converter;

wherein multichannel PN sequence mapping comprises:

N-I delay units coupled to N down sampling units followed by N Exclusive OR (XOR) units in parallel, and said N XOR units connected to a PN sequence look-up table, where N is an integer and greater than 1.

(b) Replace claim 46 by:

A spread spectrum based multichannel modulation Ultra-Wideband (UWB) communication receiver comprising:  
a low noise amplifier (LNA); a multichannel-based multicarrier down converter; an analog-to-digital (A/D) converter;  
a digital receiver lowpass finite impulse response (FIR) filter;  
a rake receiver; an equalizer;  
a despreading for pseudorandom noise (PN) sequence and demapping;  
a block deinterleaver; a decoder;  
a PN sequence look-up table coupled to the rake receiver and the despreading for PN sequence and demapping;  
an channel estimator coupled to the rake receiver and the equalizer;  
a synchronization and time control connected to the multichannel-based

multicarrier downconverter, the digital receiver lowpass FIR filter, and the rake receiver;

and a multichannel control connected to the multichannel-based multicarrier downconverter, and the despread for PN sequence and demapping;

wherein the despread for a pseudorandom noise (PN) sequence and demapping produces an UWB symbol rate at 446 Msps.

- (c) In claim 26, 2nd last line, change “N and Q is greater” to “N and Q are greater”
- (d) In claim 26, 2nd last line, change “L is greater and equal to 1” to “L is greater than or equal to 1”
- (e) In claim 31, 2nd last line: delete the word “approximately”
- (f) In claim 32, last line: delete the word “approximately”
- (g) In claim 46, last line: delete the word “approximately”

#### ***Reasons for Allowance***

3. The prior art of record, including Crochiere, Tewfik, Fattouche and Graham fail to teach or suggest a method wherein the multichannel PN sequence mapping comprises:

N-I delay units coupled to N down sampling units followed by N Exclusive OR (XOR) units in parallel, and said N XOR units connected to a PN sequence look-up table, where N is an integer and greater than 1.

4. Claims 25 – 32, 46 are allowed.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Contact Information***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adolf DSouza whose telephone number is 571-272-1043. The examiner can normally be reached on Monday through Friday from 8:00 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Adolf DSouza  
Examiner  
Art Unit 2611

  
AD

  
DAVID C. PAYNE  
SUPERVISORY PATENT EXAMINER

<b>Examiner-Initiated Interview Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/614,366	MIAO, GEORGE J.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Adolf DSouza	2611	

**All Participants:**

(1) Adolf DSouza.

**Status of Application:**

(3) \_\_\_\_\_.

(2) George Miao (Applicant Pro Se).

(4) \_\_\_\_\_.

**Date of Interview:** 6 September 2007

**Time:** 10 am

**Type of Interview:**

Telephonic  
 Video Conference  
 Personal (Copy given to:  Applicant     Applicant's representative)

Exhibit Shown or Demonstrated:  Yes     No

If Yes, provide a brief description:

**Part I.**

Rejection(s) discussed:

Claims discussed:

24, 25, 31, 32, 40, 46,

Prior art documents discussed:

**Part II.**

**SUBSTANCE OF INTERVIEW DESCRIBING THE GENERAL NATURE OF WHAT WAS DISCUSSED:**

*Applicant agreed to amend claims 25, 31, 32 and 46 as stated in the Office Action*

**Part III.**

It is not necessary for applicant to provide a separate record of the substance of the interview, since the interview directly resulted in the allowance of the application. The examiner will provide a written summary of the substance of the interview in the Notice of Allowability.  
 It is not necessary for applicant to provide a separate record of the substance of the interview, since the interview did not result in resolution of all issues. A brief summary by the examiner appears in Part II above.

(Examiner/SPE Signature)

(Applicant/Applicant's Representative Signature – if appropriate)

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